Version

1

User's Manual

DBS

Diagnostic Base Station

DBS User's Manual

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Note: An electronic version of this manual is available on the V CD or at the Internet location in which DBS software is obtained.

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Definitions, Acronyms, and Abbreviations

- DBS — Diagnostic Base Station. Software that is necessary to load and transfer files to the VCM
- LAN — Local Area Network
- LED — Light Emitting Diode
- NGS — New Generation Star Tester (NGS Classic)
- NGS+ — Product name for the VCM when combined with the Caddy and used with the NGS T-Handle
- OTS — Off the shelf
- PC — Personal Computer
- RJ 45 — Registered Jack–45 commonly used to connect PCs with LANS especially Ethernet Connections
- SW — Software
- TIS — Technical Information Support Hotline
- USB — Universal Serial Bus
- VCM — Vehicle Communication Module
- VIN — Vehicle Identification Number

Introduction

The Diagnostic Base Station PC (DBS PC) is a dealer provided PC loaded with DBS software. It updates the VCM with the NGS+ software it needs to communicate with a vehicle when used with the NGS+ T-handle. This manual provides clear instructions for loading the DBS software on a PC and downloading the NGS+ software to a VCM.

DBS Functions

The primary functions of the Diagnostic Base Station software are to:

- Provide VCM authorization (available in a later release)
- Manage the installation / update of NGS+ software
- Manage the installation / update of DBS software

Information can be downloaded via the Internet or CD-ROM.

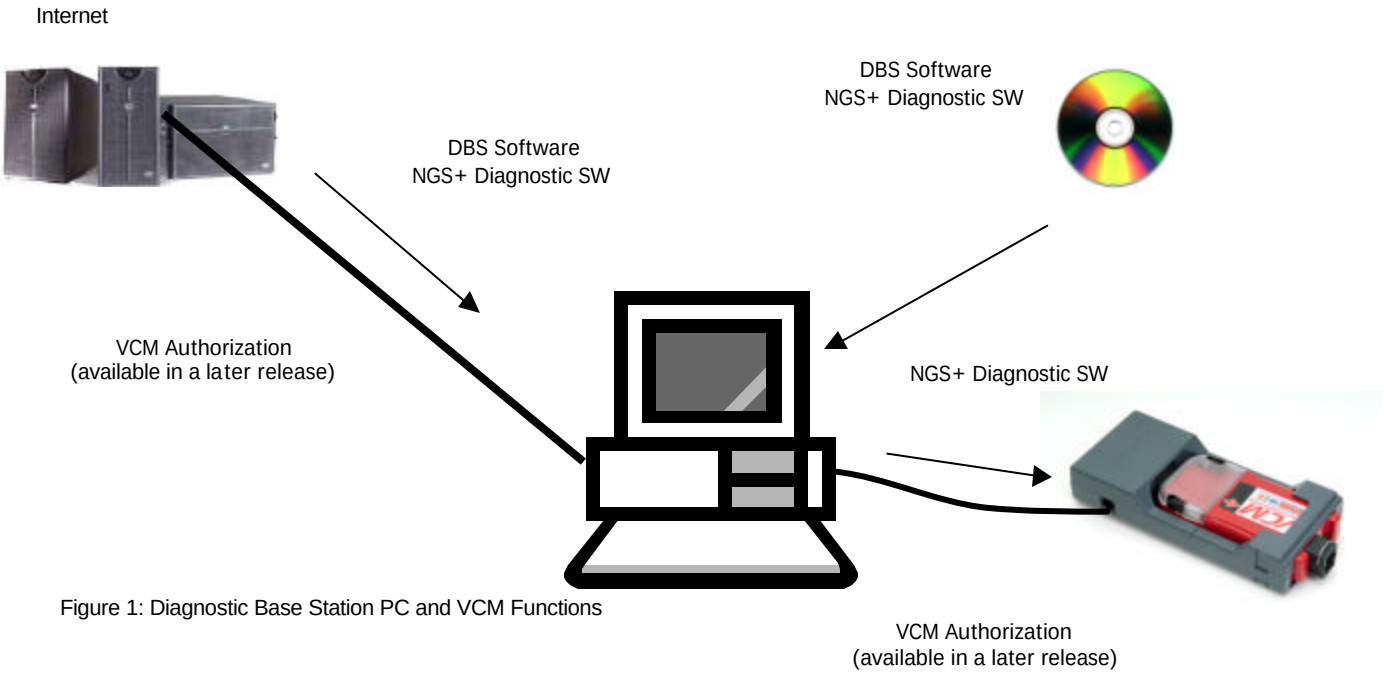


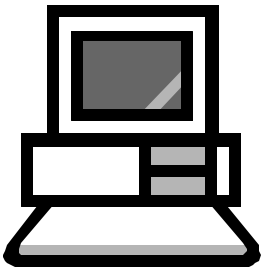
Figure 1: Diagnostic Base Station PC and VCM Functions

DBS Requirements

In order for the DBS software to function be sure that all of the components and systems used with the DBS software meet the requirements listed in the following sections.

Hardware Requirements for use with NGS+

The following components are needed for the use of the DBS software with the VCM:



PC (PC specifications listed in System Requirements Section of DBS User's Manual)

Off-the-Shelf Ethernet Cable (Ethernet Patch Cable)

Off-the-Shelf USB Cable (USB Device Cable) (Functionality not available yet)

VCM Power Supply Unit

VCM & Caddy

V CD

Figure 2: Hardware Requirements

DBS Software System Requirements

Operating System Requirements

Microsoft Windows 98, or

Microsoft Windows 2000 Professional, or

Microsoft Windows XP

Microsoft Internet Explorer 5.5 or later

PC Hardware Requirements

Required Processor: Pentium 90 MHz

Recommended Processor: Pentium 90 Mhz or faster

Required RAM: 32 MB or the minimum required by the operating system, whichever is higher

Recommended RAM: 96 MB or higher

USB Connection (available in a later release)

Ethernet connection

CD-ROM drive

Chapter 1

Getting Started

Installing DBS Software from a CD

Begin the initial DBS software installation by inserting the V CD into the CD-ROM drive on your PC. The DBS installation program should automatically start up. If the installation program does not start up automatically, click on **My Computer**, select the **CD-ROM drive with the V CD** and click on **setup.exe**.

The directions on the screens will guide you through the installation.

Running the DBS Software on the DBS PC

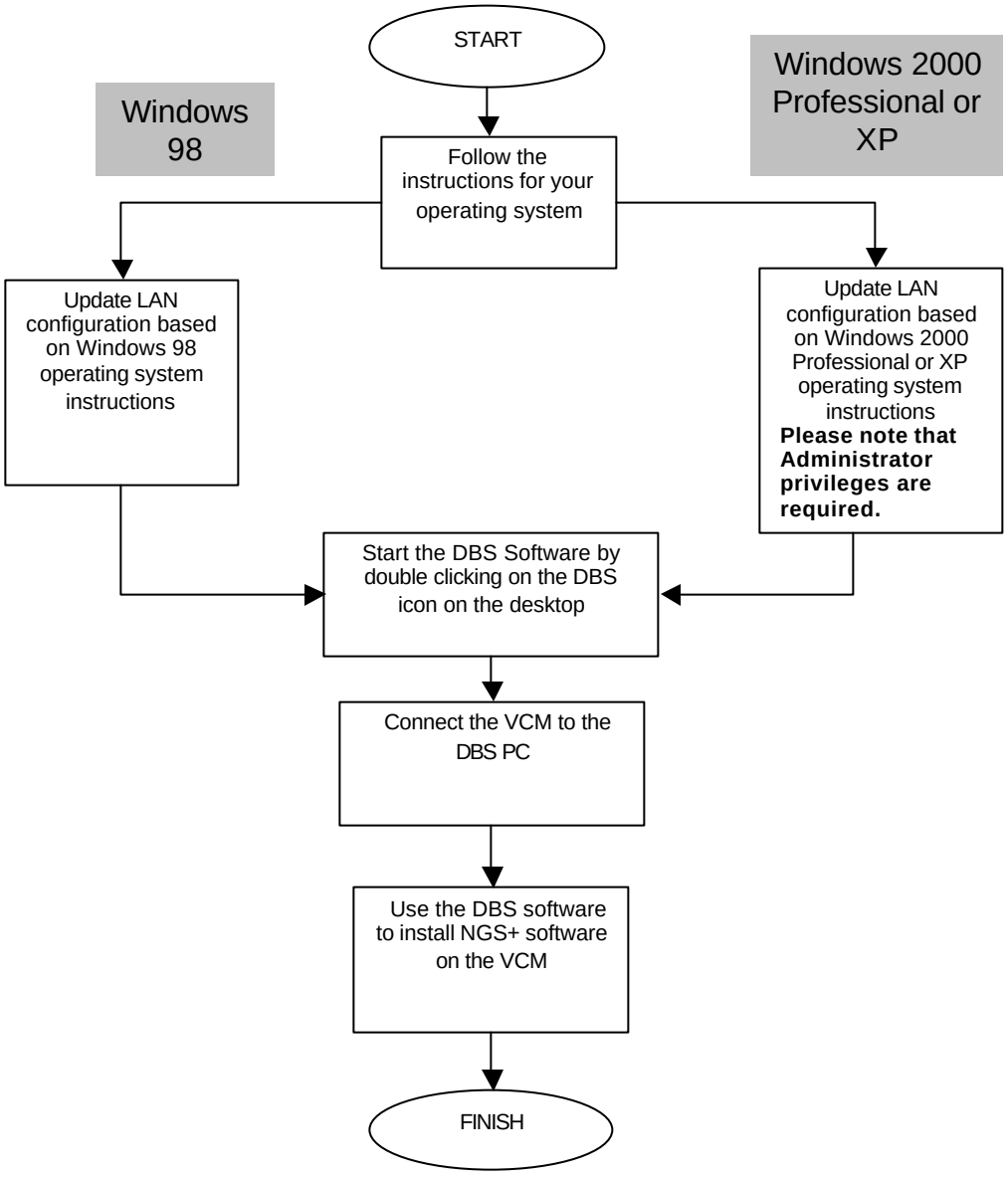

START
Windows 98
Windows 2000 Professional or XP
Follow the instructions for your operating system
Update LAN configuration based on Windows 98 operating system instructions
Update LAN configuration based on Windows 2000 Professional or XP operating system instructions
Please note that Administrator privileges are required.
Start the DBS Software by double clicking on the DBS icon on the desktop
Connect the VCM to the DBS PC
Use the DBS software to install NGS+ software on the VCM
FINISH

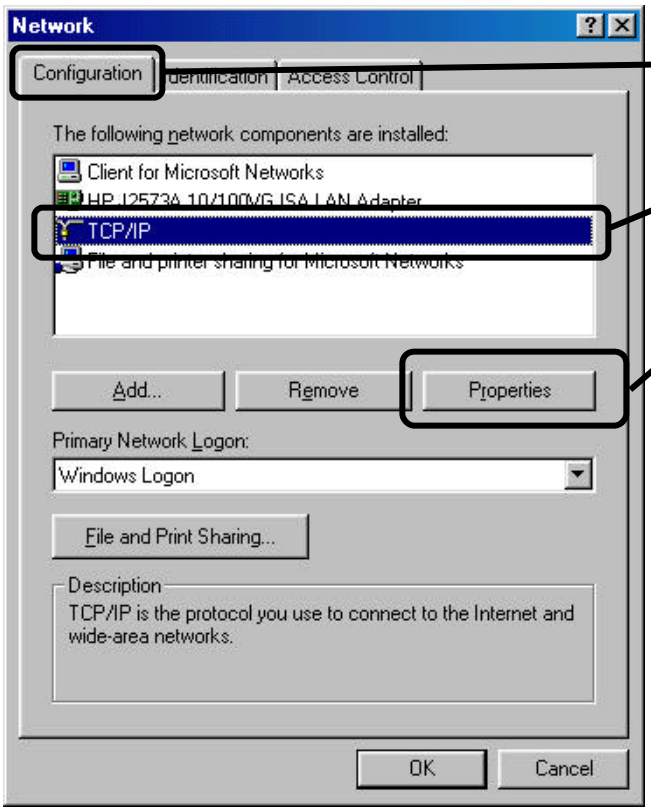
Figure 3: Running DBS Software

Update Ethernet LAN Configuration for Windows 98

1 Select:
Start
Settings
Control Panel.

2 Double click on the **Network** icon.

Figure 4: Control Panel icons for Windows 98

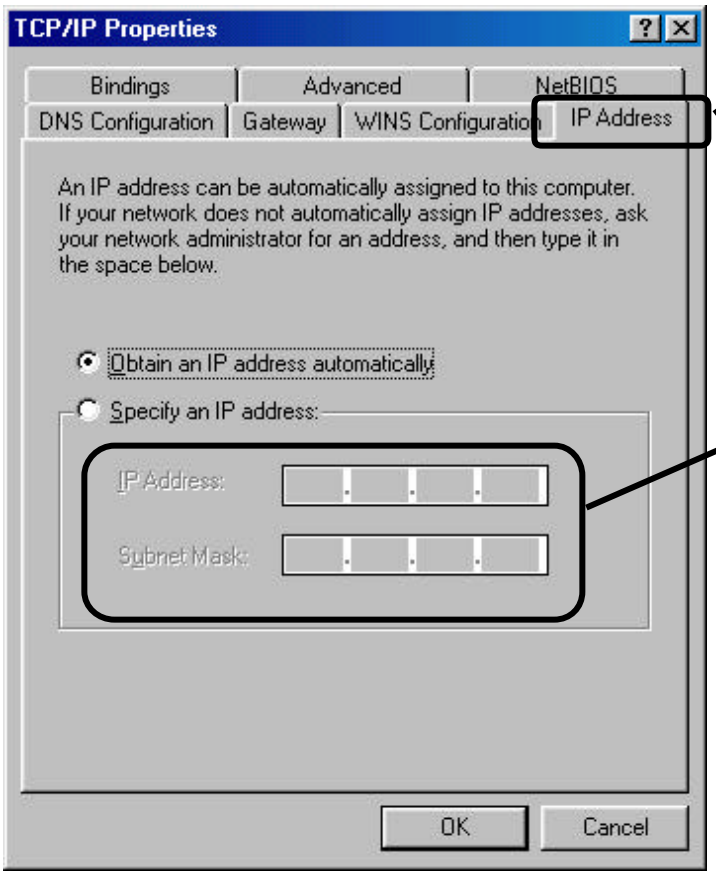


1 Select **Configuration** tab.

2 Highlight **TCP/IP.**

3 Click on **Properties**

Figure 5: TCP/IP Properties Screen for Windows 98


TCP/IP Properties
Bindings
Advanced
NetBIOS
DNS Configuration
Gateway
WINS Configuration
IP Address
An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.
Obtain an IP address automatically
Specify an IP address:
IP Address:
Subnet Mask:
OK
Cancel

1 Record any numbers found under the IP address tab.

2 These numbers will be needed to reset the IP address and subnet mask once the DBS PC is no longer connected to the VCM.

Figure 6: TCP/IP Properties Screen for Windows 98

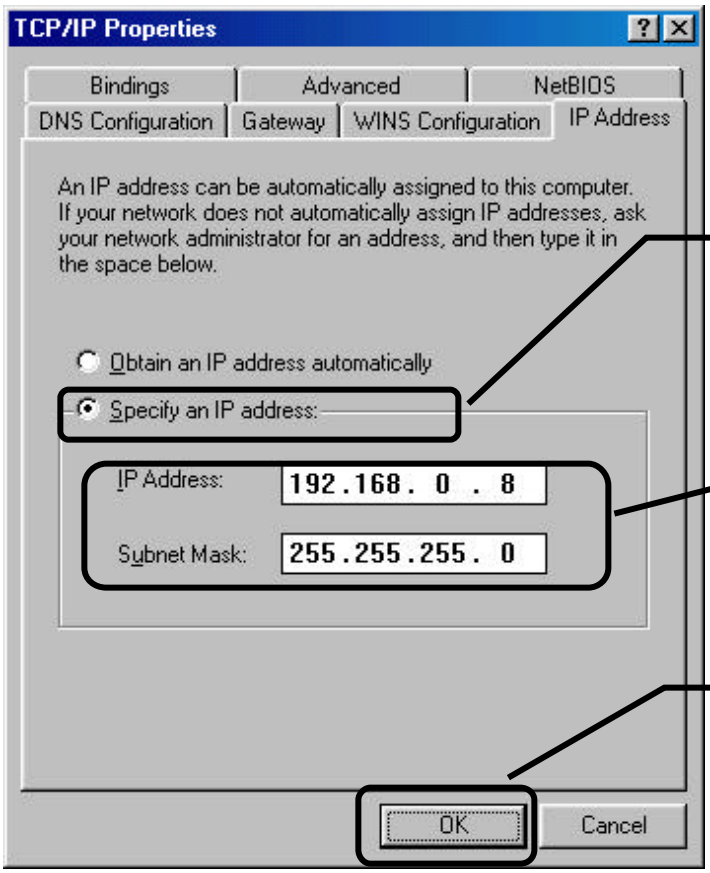
If any numbers appear for *IP address* record them here now:

____ . ____ . ____ . ____

If any numbers appear for *Subnet mask* record them here now:

____ . ____ . ____ . ____

These numbers will be needed to reset the IP address and subnet mask once the DBS is no longer connected to the VCM.



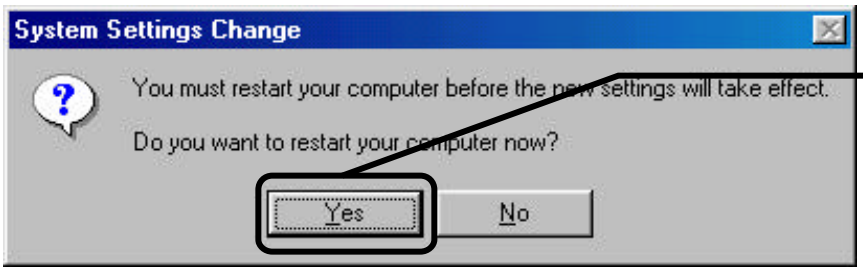
1 Select **Specify an IP address** .

Use the following for VCM and DBS communication.

2 Set
IP Address: 192.168.0.8
Subnet Mask: 255.255.255.0

3 Select **OK**

Figure 7: TCP/IP Properties Screen for Windows 98 with IP address needed for VCM


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

1 Select **Yes**.

2 After the restart, the VCM should be ready to communicate with the DBS.

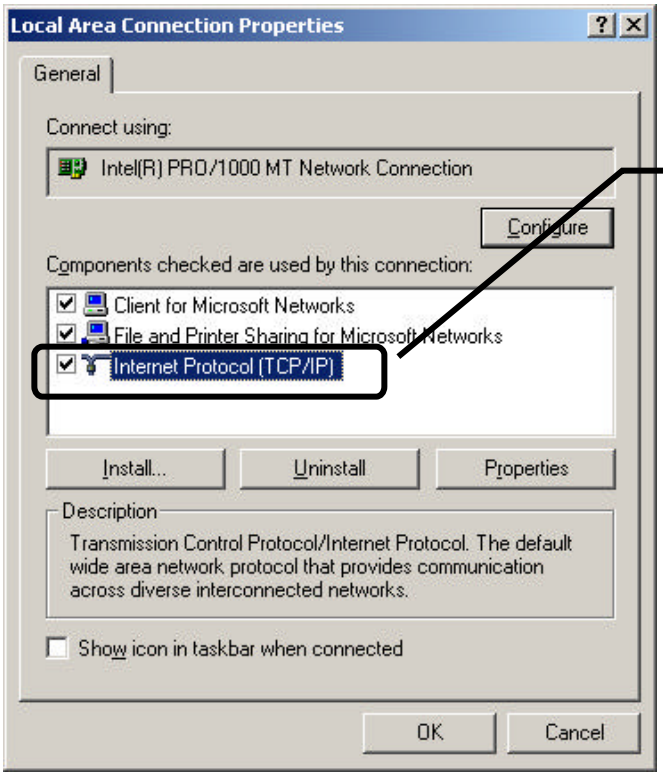
Figure 8: Systems Settings Change Screen for Windows 98

Update Ethernet LAN Configuration for Windows 2000 Professional or Windows XP

NOTE: Administrator privileges are required to change the IP address.

Windows 2000 Professional	Window XP
Select **Start** **Settings** **Network and Dial-Up Connections** **Local Area Connection Properties** The following screen should be displayed	Select **Start** **Control Panel** **Network and Internet Connections** **Network Connections.** Double click on **Local Area Connection**. The following screen should be displayed

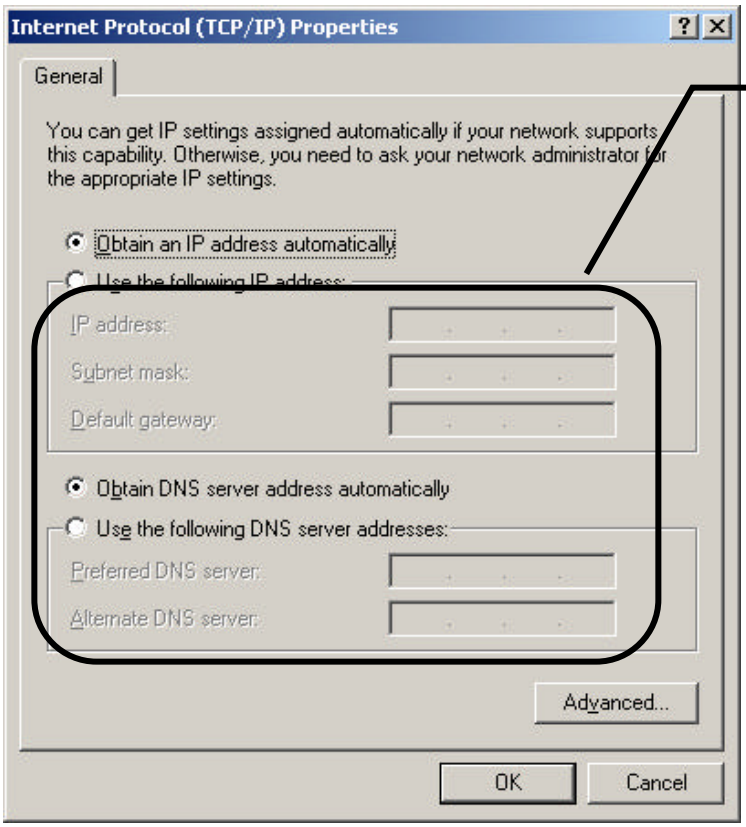
Directions for both Windows 2000 Professional and Windows XP are the same from this point forward.



1 Double click on **Internet Protocol (TCP/IP)**.

2 The IP address which allows communication between the VCM and the DBS will be entered on the following screen.

Figure 9: Local Area Connection Properties Screen for Windows 2000 & XP


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

1 **Record any numbers currently displayed on this screen**.

2 **These numbers will be needed to reset the IP address and subnet mask once the DBS PC is no longer connected to the VCM.**

Figure 10: Internet Protocol (TCP/IP) Properties Screen for Windows 2000 & XP

If any numbers appear for *IP address* record them here now:

____ . ____ . ____ . ____

If any numbers appear for *Subnet mask* record them here now:

____ . ____ . ____ . ____

If any numbers appear *for Default Gateway* record them here:

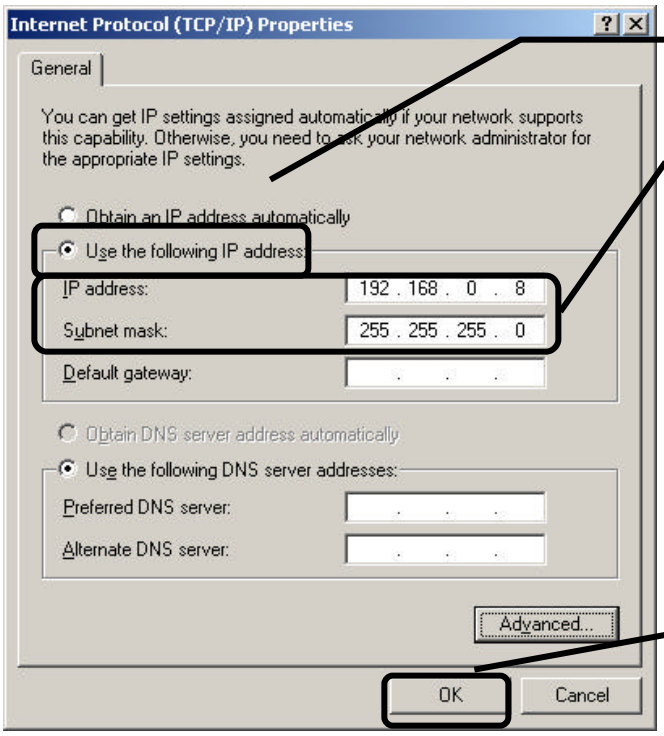
____ . ____ . ____ . ____

If any numbers appear for *Preferred DNS Server* record them here:

____ . ____ . ____ . ____

If any numbers appear for *Alternate DNS Server* record them here:

____ . ____ . ____ . ____


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 8
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

1 Select **Use the following IP address**.

2 Use the following for VCM and DBS communication:

IP Address: 192.168.0.8
Subnet Mask: 255.255.255.0

Confirm that the numbers are correct.

Gateway settings and DNS settings do not need to be changed for NGS+.

3 Select **OK.**

Select **OK.**

Figure 11: Internet Protocol (TCP/IP) Properties with address for VCM Communication

Close the Local Area Connection Status window to complete the process, then restart the system.

After the restart, the VCM should be ready to communicate with the DBS.

Connecting the VCM to the DBS Personal Computer

- Remove power from the VCM and Caddy assembly and slide it out of the NGS T-handle.

- Connect one end of the Ethernet Cable to the PC by using the jack with the symbol. Connect the other end of the cable to the Caddy Ethernet connector.

Note: Do not power up the VCM until instructed by the DBS software.
Note: Do not connect the Ethernet cable to a hub. It must be connected to the DBS PC.

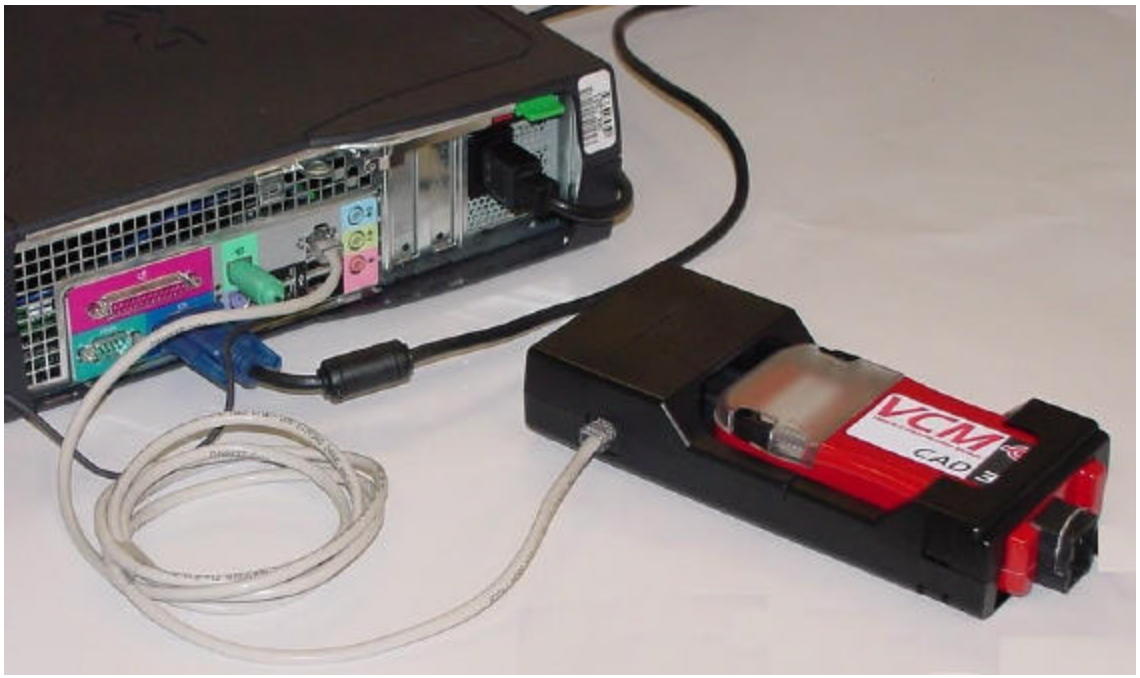


Figure 12: Connecting the VCM to the DBS PC

Chapter

2

NGS+

Initially, the DBS is designed to work with the VCM to support the first VCM based tool, namely NGS+. The DBS functions will be expanded as the VCM supports additional diagnostic tools in the future.

NGS+ is made up of the following three components:

DBS SW + VCM & Caddy + NGS T-Handle

Installing/ Updating the NGS+ Software

Diagnostic Base Station
File NGS+ Tools Window Help
Welcome to the Diagnostic Base Station
NGS+
Update VCM With Latest NGS+ Software
Check Internet For Latest NGS+ Software
Ready

Figure 13: Diagnostic Base Station Welcome Screen

Double click on the DBS icon

on the desktop to start.

Click on **Update VCM With Latest NGS+ Software** on the Welcome Screen

Diagnostic Base Station
File NGS+ Tools Window Help
Update VCM With Latest NGS+ Software
Check Internet For Latest NGS+ Software
Welcome to the Diagnostic Base Station
NGS+
Update VCM With Latest NGS+ Software
Check Internet For Latest NGS+ Software
Ready

Figure 14:Selecting NGS+, Update Software from DBS menu bar

OR

select **NGS+** then **Update VCM With Latest NGS+ Software** from the DBS menu.

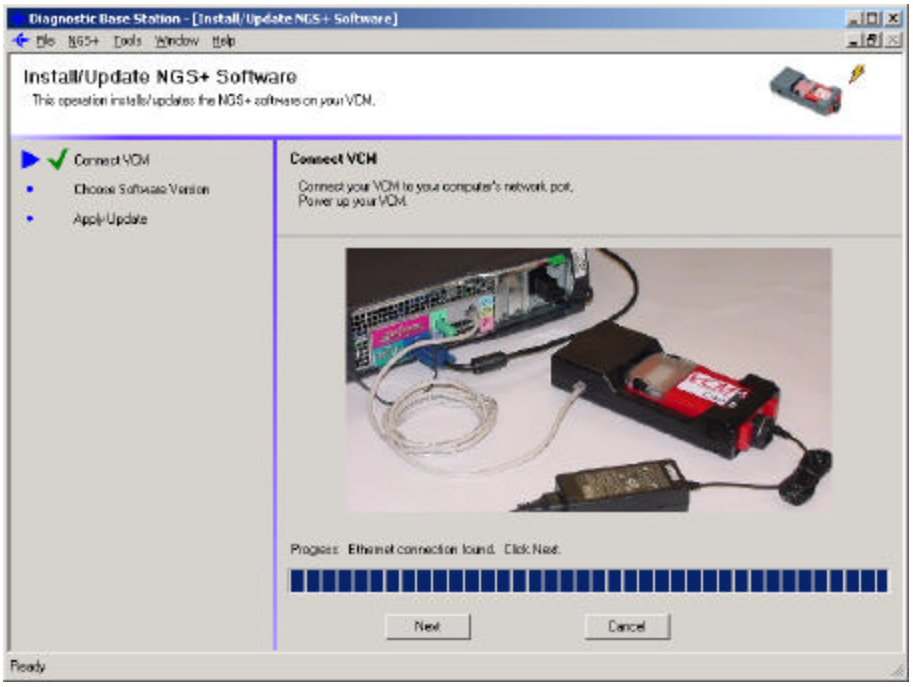


Figure 15: Install/Update NGS+ Software - Connect VCM Screen

Verify that the VCM Power Supply Unit is connected to an electrical outlet.

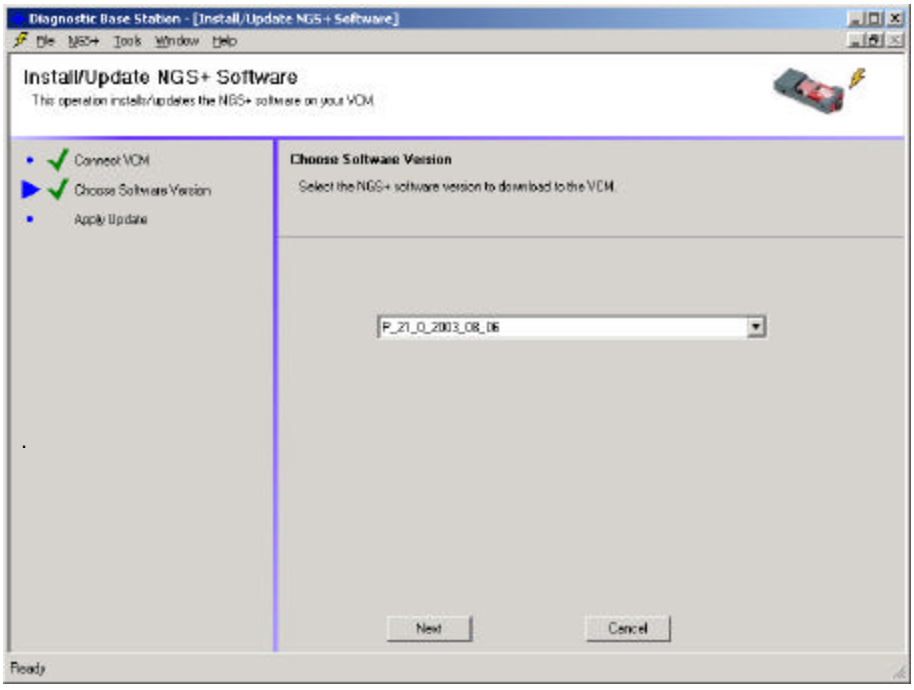
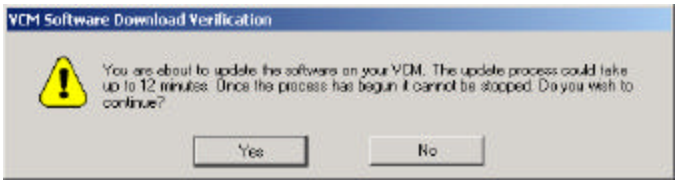


Figure 16: Install/Update NGS+ Software – Choose Software Version Screen

The DBS software will display the VCM files that can be selected for download to the VCM.

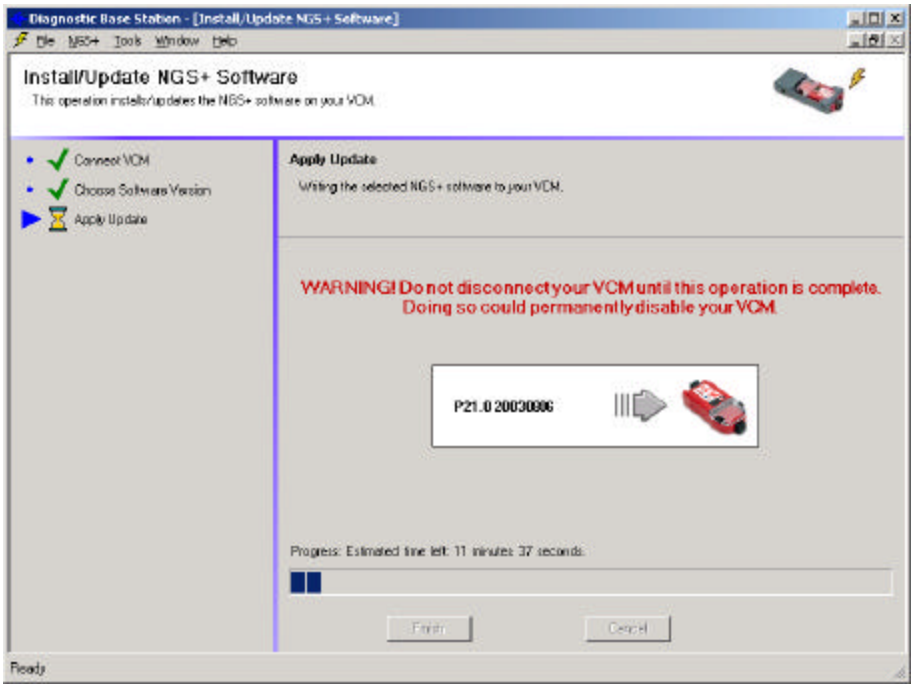
LED lights will flicker as the DBS PC and the VCM communicate.

An explanation of the LED lights can be found in the **LED Status Indicators** section of the **VCM Hardware Manual**.


VCM Software Download Verification
You are about to update the software on your VCM. The update process could take up to 12 minutes. Once the process has begun it cannot be stopped. Do you wish to continue?
Yes
No

Select **Yes** to continue.

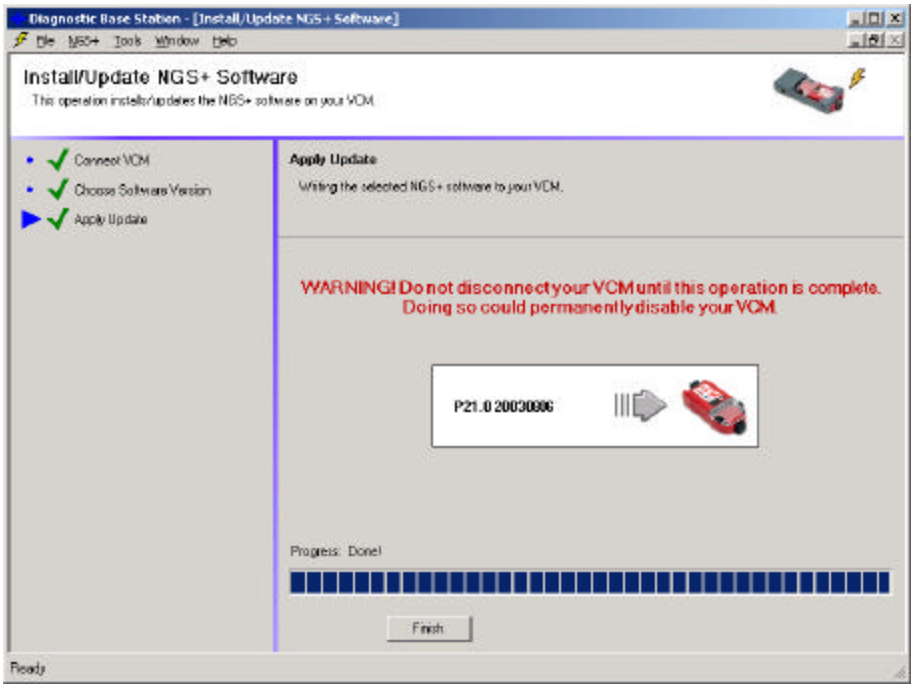
Figure 17: VCM Software Download Confirmation


Diagnostic Base Station - [Install/Update NGS+ Software]
File NGS+ Tools Window Help
Install/Update NGS+ Software
This operation installs/updates the NGS+ software on your VCM.
Connect VCM
Choose Software Version
Apply Update
Apply Update
Writing the selected NGS+ software to your VCM.
WARNING! Do not disconnect your VCM until this operation is complete. Doing so could permanently disable your VCM.
P21.0 20030806
Progress: Estimated time left: 11 minutes 37 seconds
Finish
Cancel
Ready

A progress bar will be displayed while the NGS+ software is being downloaded to the VCM.

Do not disconnect your VCM until the operation is complete. Doing so could permanently disable your VCM.

Figure 18: Install/Update NGS+ Software - Apply Update Screen


Diagnostic Base Station - [Install/Update NGS+ Software]
File NGS+ Tools Window Help
Install/Update NGS+ Software
This operation installs/updates the NGS+ software on your VCM.
Connect VCM
Choose Software Version
Apply Update
Apply Update
Writing the selected NGS+ software to your VCM.
WARNING! Do not disconnect your VCM until this operation is complete. Doing so could permanently disable your VCM.
P21.0 20030806
Progress: Done!
Finish
Ready

Select **Finish** when the update is done.

Figure 19: Install /Update NGS+ Software - Apply Update Completion Screen

Once the file has been downloaded successfully, first disconnect the VCM Power Supply Unit, then the VCM/Caddy assembly from the DBS PC.

- When using an Ethernet cable to connect the VCM to the DBS PC, follow the directions in the section **Running the DBS Software on the DBS PC** to restore the IP address and Subnet mask to the values you recorded earlier. Select *Obtain an IP address automatically* if that was the option being used on your computer. ***Failure to restore the original IP address will result in the computer not being able to communicate with your network.***

- The VCM /Caddy is now ready to be used with the NGS T-handle.

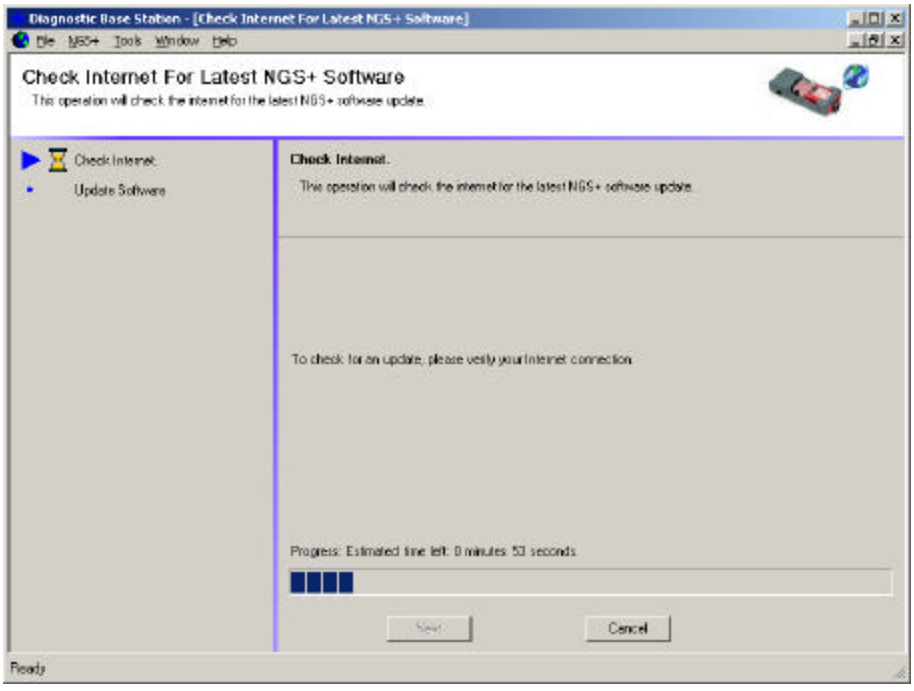
Retrieving NGS+ Updates from the Internet

Diagnostic Base Station
File NGS+ Tools Window Help
Update VCM With Latest NGS+ Software
Check Internet For Latest NGS+ Software
Welcome to the Diagnostic Base Station
NGS+
Update VCM With Latest NGS+ Software
Check Internet For Latest NGS+ Software
Ready

Select
NGS+

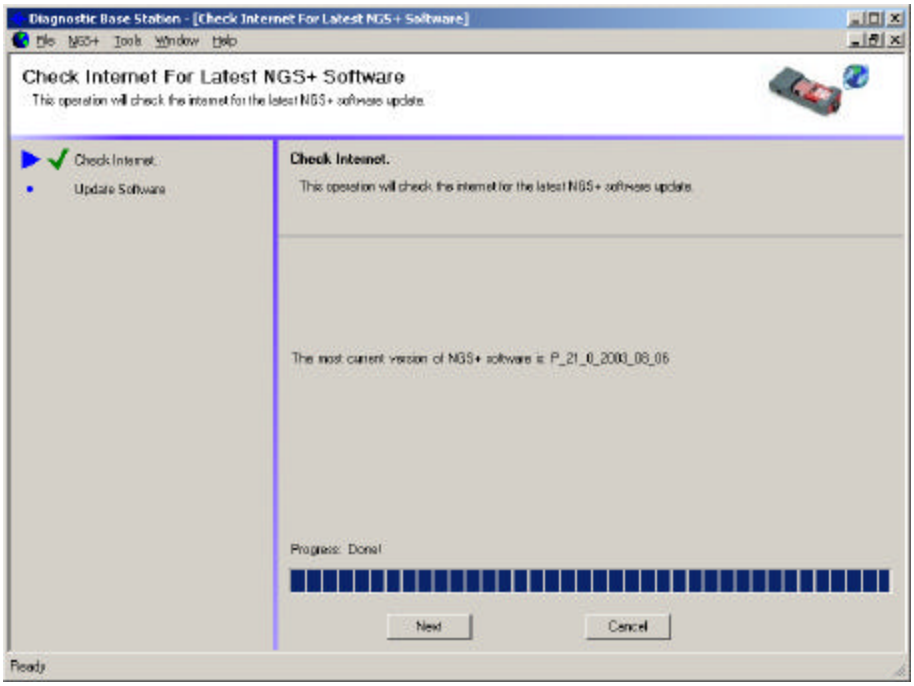
Check Internet For Latest NGS+ Software

Figure 20: Select Check Internet For Latest NGS+ Software


Diagnostic Base Station - [Check Internet For Latest NGS+ Software]
File NGS+ Tools Window Help
Check Internet For Latest NGS+ Software
This operation will check the internet for the latest NGS+ software update.
Check Internet
Update Software
Check Internet.
This operation will check the internet for the latest NGS+ software update.
To check for an update, please verify your Internet connection.
Progress: Estimated time left: 0 minutes 53 seconds
Next
Cancel
Ready

Make sure your PC is connected to the Internet.

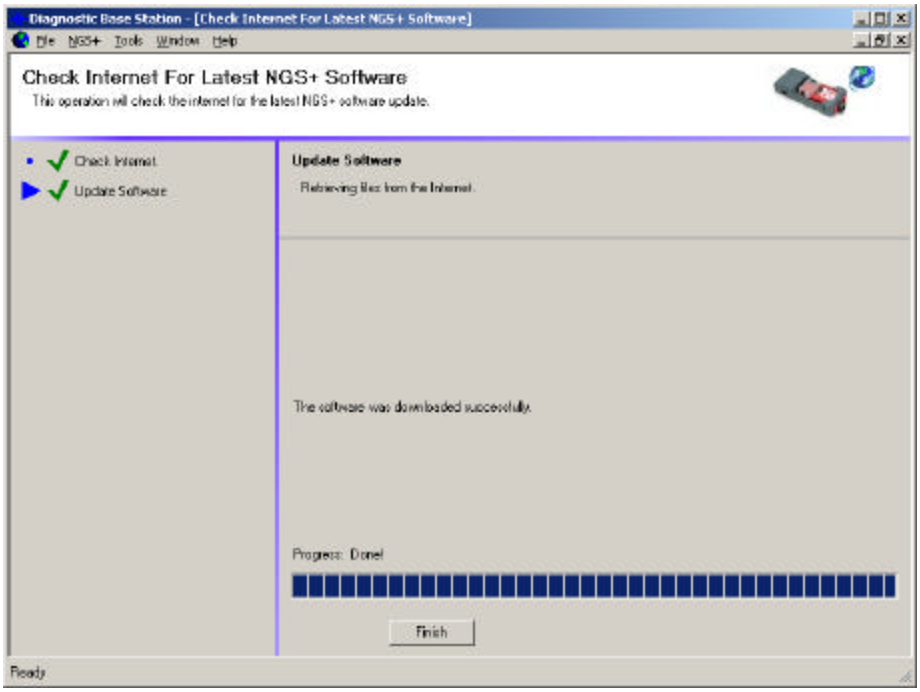
Figure 21: Check Internet For Latest NGS+ Software – Check Internet Screen


Diagnostic Base Station - [Check Internet For Latest NGS+ Software]
File NGS+ Tools Window Help
Check Internet For Latest NGS+ Software
This operation will check the internet for the latest NGS+ software update.
Check Internet
Update Software
Check Internet.
This operation will check the internet for the latest NGS+ software update.
The most current version of NGS+ software is P_21_0_2003_06_06
Progress: Done!
Next
Cancel
Ready

The DBS software will display the latest available version of DBS software.

Select **Next.**

Figure 22: Check Internet For Latest NGS+ Software – Check Internet Done Screen


Diagnostic Base Station - [Check Internet For Latest NGS+ Software]
File NGS+ Tools Window Help
Check Internet For Latest NGS+ Software
This operation will check the internet for the latest NGS+ software update.
Check Internet
Update Software
Update Software
Retrieving files from the Internet.
The software was downloaded successfully.
Progress: Done!
Finish
Ready

Select **Finish** when the download of the NGS+ software update is complete.

Figure 23: Check Internet For Latest NGS+ Software - Update Software Screen

Chapter 3

Tools

Options - Language

Text appearing in DBS screens can be viewed in three different languages: English (United States), French (Canada) and Spanish (Mexico). A default language is set during the installation of DBS software. The language can also be changed at any time within DBS to accommodate users who prefer a language that differs from the default.

Select
Tools
Options …

Figure 24: Setting Options in DBS

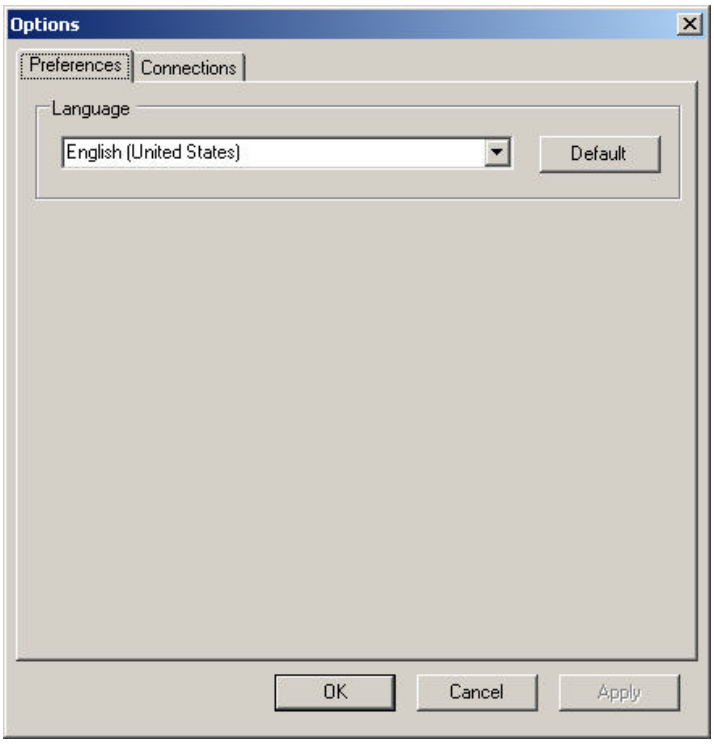


Figure 25: Display Languages Available

Select the **Preferences** tab.

Click on the down arrow to display the languages available in the drop down box.

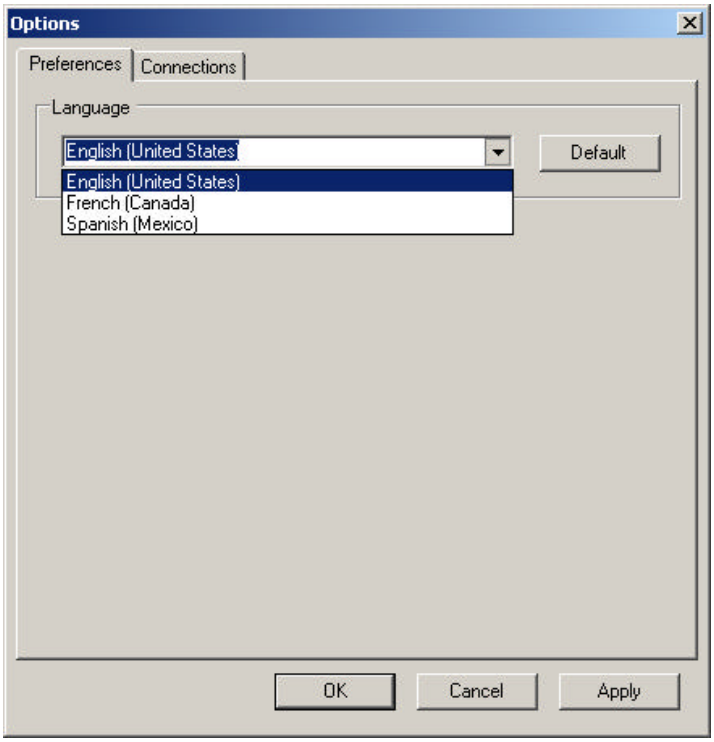


Figure 26: Select a Language

Highlight the desired language.

Select **OK**.

Options - Connections

You may need to configure a proxy server to access the internet.

Figure 27: Setting Options in DBS

Select
Tools
Options ...

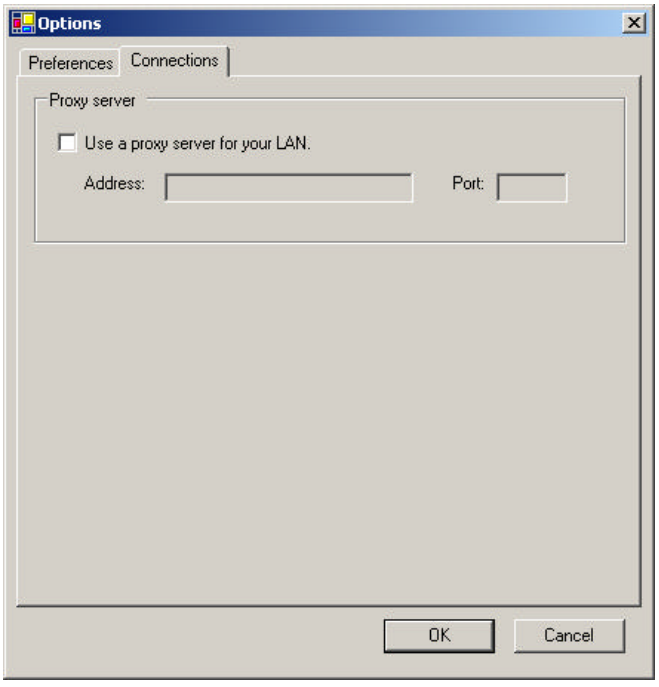
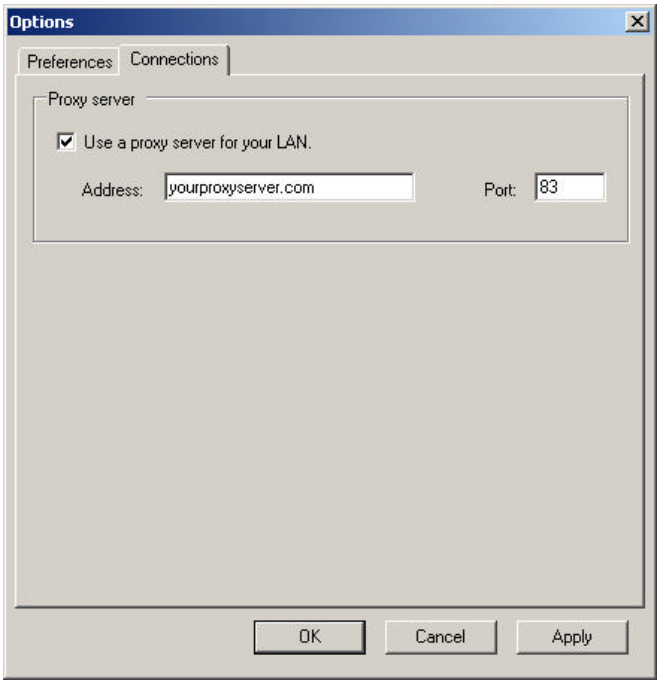


Figure 28: Proxy Server Screen

Select the
Connections tab.

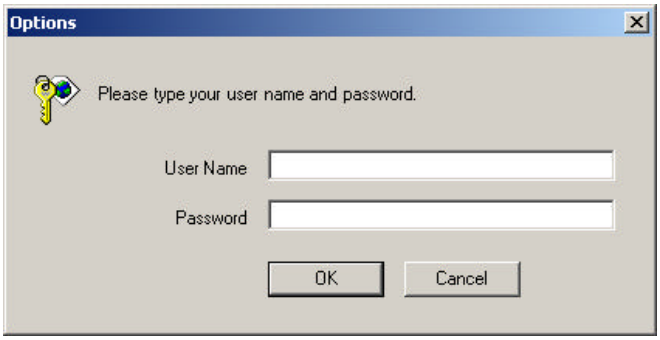


Check the box labeled **Use a proxy server for your LAN.**

Enter your **proxy server address** and **port number**.

Click **OK** so that your settings are registered.

Figure 29: Set Proxy Server Address and Port Number



DBS may prompt you to enter your User Name and Password for the proxy server when accessing the Internet.

This information will need to be entered once each time you use DBS.

Figure 30: User Name and Password Request

Chapter 4

Check for DBS Updates from the Internet

Updates of the DBS software will be available from the Internet. Check for DBS software updates by selecting **Help** and **Check for DBS Software Update** from the menu bar.

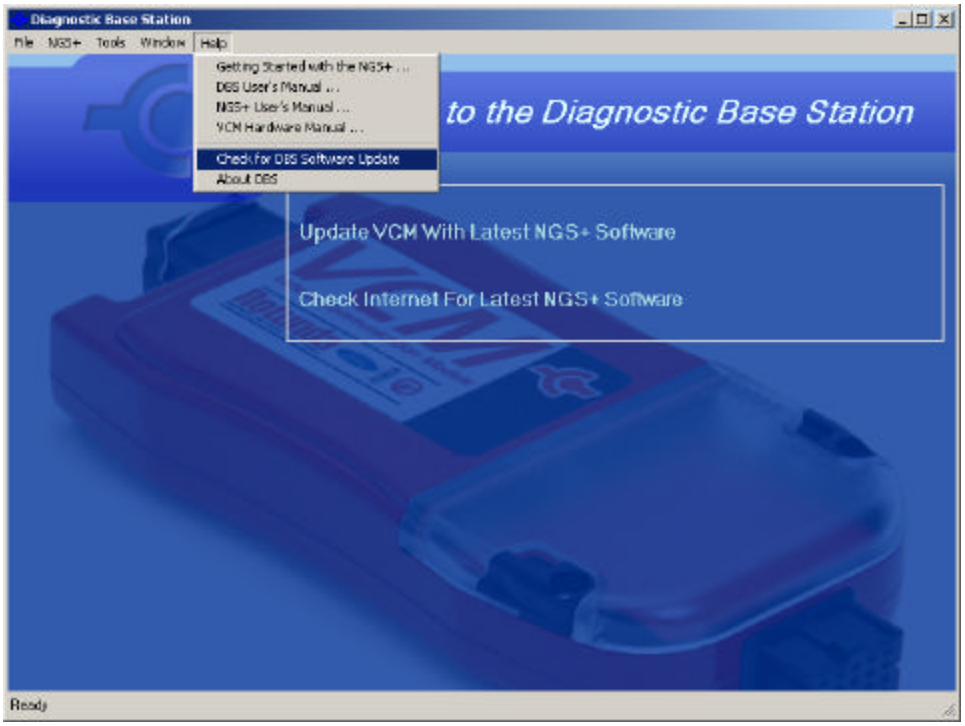
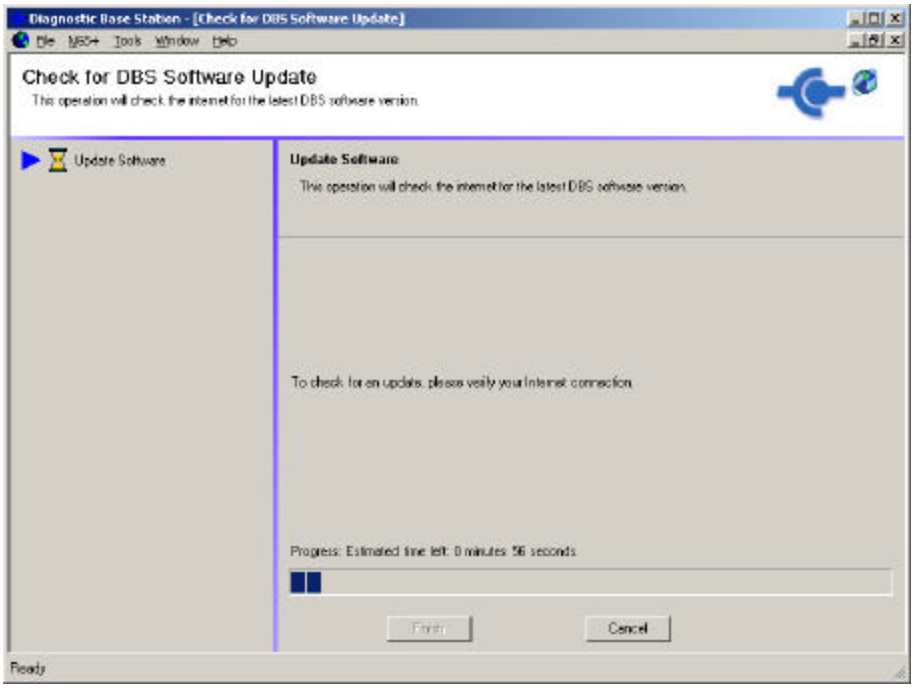

Diagnostic Base Station
File NGS+ Tools Window Help
Getting Started with the NGS+ ...
DBS User's Manual ...
NGS+ User's Manual ...
VCM Hardware Manual ...
Check for DBS Software Update
About DBS
to the Diagnostic Base Station
Update VCM With Latest NGS+ Software
Check Internet For Latest NGS+ Software
Ready

Figure 31: Check for DBS Software Update

Select **Help**

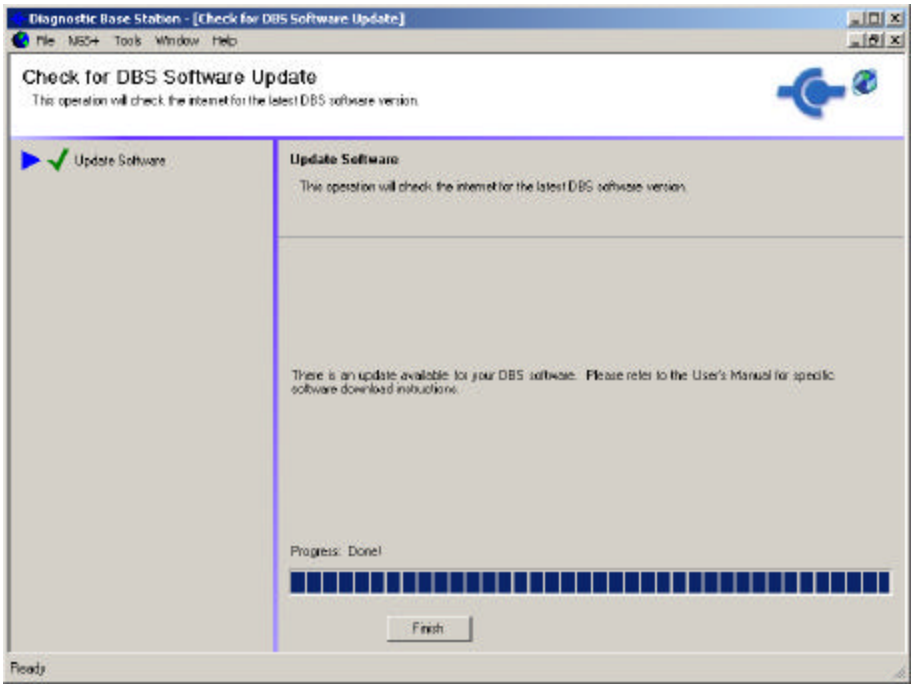
Check for DBS Software Update

Make sure your PC is connected to the Internet.


Diagnostic Base Station - [Check for DBS Software Update]
File MSG Tools Window Help
Check for DBS Software Update
This operation will check the internet for the latest DBS software version.
Update Software
Update Software
This operation will check the internet for the latest DBS software version.
To check for an update, please verify your Internet connection.
Progress: Estimated time left: 0 minutes 56 seconds
Finish
Cancel
Ready

The DBS software will indicate whether or not a DBS software update is available from the Internet.

Figure 32: Check for DBS Software Update - Update Software Screen


Diagnostic Base Station - [Check for DBS Software Update]
File MSG Tools Window Help
Check for DBS Software Update
This operation will check the internet for the latest DBS software version.
Update Software
Update Software
This operation will check the internet for the latest DBS software version.
There is an update available for your DBS software. Please refer to the User's Manual for specific software download instructions.
Progress: Done!
Finish
Ready

Select **Finish** when Update Software is complete.

Figure 33: Check for DBS Software Update - Update Software Completion Screen

Chapter 5

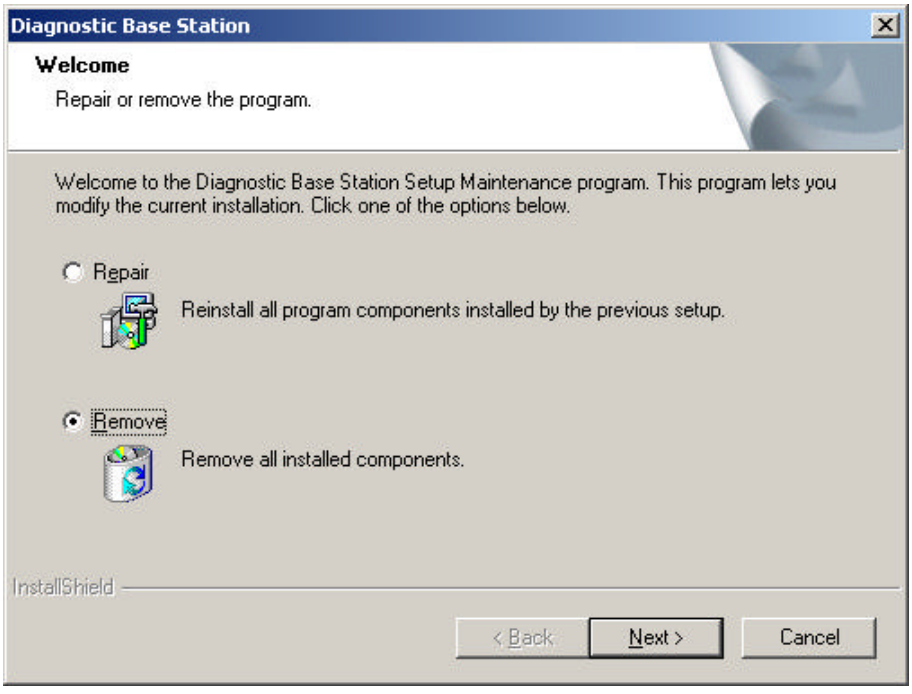
Installing DBS Software Updates

NOTE: To install a new version of DBS software you must first uninstall any previous versions of DBS software on your personal computer.

Uninstalling the DBS Software

Begin by selecting **Start** (from the lower left hand corner of your screen). Select **Settings**, **Control Panel,** and finally double click on **Add/Remove Programs**.

Highlight **Diagnostic Base Station** then click on **Change/Remove**.


Diagnostic Base Station
Welcome
Repair or remove the program.
Welcome to the Diagnostic Base Station Setup Maintenance program. This program lets you modify the current installation. Click one of the options below.
Repair
Reinstall all program components installed by the previous setup.
Remove
Remove all installed components.
InstallShield
< Back
Next >
Cancel

Select **Remove**.

Select **Next**.

Figure 34: Diagnostic Base Station - Repair/Remove Screen

Diagnostic Base Station - InstallShield Wizard
Do you want to completely remove the selected application and all of its components?
Yes
No

Figure 35: Diagnostic Base Station - Remove Application Confirmation Screen

Select **Yes** to remove the Diagnostic Base Station software from your computer.

Several screens will flash by before returning to the Add/Remove Programs screen. Diagnostic Base Station should no longer appear in the list. The Diagnostic Base Station icon will also be removed from the desktop.

Installing DBS Software from the Internet

U.S. Ford dealerships can go to www.fmcdealer.com to download the latest version of DBS software. Follow the instructions on the website for installing the DBS software.

Canadian Ford dealerships can go to www.inford.com to download the latest version of DBS software. Follow the instructions on the website for installing the DBS software.

Non-Ford dealerships can go to www.motorcraftservice.com to download the latest version of DBS software. Follow the instructions on the website for installing the DBS software.

Installing DBS Software from a CD

Begin the DBS software installation by inserting the **V CD** into the CD-ROM drive on your PC. The DBS installation program should automatically start up. If the installation program does not start up automatically, click on **My Computer**, select the **CD-ROM drive with the V CD** and click on **setup.exe**.

The directions on the screens will guide you through the installation.

Chapter 6

Troubleshooting

Problem Symptoms	Checks & Possible Causes
Can't change the IP address	• You may not have administrator privileges and need to ask your administrator to change the IP address for you.
The DBS PC can't communicate with the VCM	• Make sure that you have made the needed LAN adjustments detailed in the **Update LAN Configuration for Windows 98 section or the Update LAN Configuration for Windows 2000 Professional & XP** section. • Make sure that the VCM/Caddy assembly is connected to the VCM Power Supply Unit.
The DBS PC can't communicate with the LAN in the dealership	• Make sure that you have restored the IP address and subnet mask settings to the values that were present before you connected the VCM to the DBS PC.
DBS can't communicate with the Internet to check for updates.	• The IP address and/or proxy may not be configured correctly

Note: Additional troubleshooting tips for the VCM are available in the VCM Hardware Manual.

Chapter 7

Support Instructions

If the checks in the Troubleshooting section did not resolve your DBS concern, contact the Ford Technical Information Support for assistance.

For U.S. Ford Dealership support information see www.fmcdealer.com

For Canadian Ford Dealership support information see www.inford.com

For non-Ford Dealerships support information is available at www.motorcraftservice.com

Please have the following information available:

- Vehicle Make, Model, Year, and Engine Size
- PCM part number or Tear Tag number
- NGS+ Software Level found under New Generation Setup/Software Version
- Thincard software level, displayed on the screen after the card is inserted
- DBS Software Version and Build found under Help/About DBS